



**Stan Bradshaw**

*Staff Attorney*

*Montana Water Project*

May 31, 2016

Michelle McGree

Montana Fish, Wildlife & Parks

Habitat Protection Bureau, Fisheries Division

P.O. Box 200701

Helena, MT 59620-0701

**RE: Wasson Creek Lease Renewal Future Fisheries Grant Application**

Dear Ms. McGree:

I submit this and the attached Future Fisheries application materials to you on behalf of Trout Unlimited, Montana Water Project (TU MWP). Attached to this letter are the following:

- 1) Future Fisheries Grant Application
- 2) Supplemental questionnaire for leasing or salvage projects
- 3) Future Fisheries Budget Template
- 4) Exhibit A, Wasson Temperature Data
- 5) Exhibit B, Wasson Map
- 6) Exhibit C, Wasson Creek 2015
- 7) Exhibit D, Wasson Creek Project, 2013
- 8) Exhibit E, NSC 2010 Progress Report
- 9) Exhibit F, Wasson Creek Renewal Agreement

Please note that I am the contact person for TU MWP on this application. If you have any questions, don't hesitate to email me or call me that the number listed below.

Sincerely,

A handwritten signature in black ink that reads 'Stan Bradshaw'.

Stan Bradshaw

c.c. Ryen Aasheim  
Ron Pierce

**FUTURE FISHERIES IMPROVEMENT PROGRAM  
GRANT APPLICATION***(please fill in the highlighted areas)***I. APPLICANT INFORMATION**

A. Applicant Name: Trout Unlimited, Montana Water Project (TU)

B. Mailing Address: PO Box 412

C. City: Helena State: MT Zip: 59612

Telephone: 406-449-9922 E-mail: [sbradshaw@tu.org](mailto:sbradshaw@tu.org)

D. Contact Person: Stan Bradshaw

Address if different from Applicant:

City: State: Zip:

Telephone: E-mail:

E. Landowner and/or Lessee Name (if other than Applicant): Mannix brothers Ranch

Mailing Address: 83 Mannix ranch Drive

City: Helmville State: MT Zip: 59843-9039

Telephone: 406-793-5601 E-mail: [Mannixbros@blackfoot.net](mailto:Mannixbros@blackfoot.net)

**II. PROJECT INFORMATION\***

A. Project Name: Wasson Creek Water Rights Lease Renewal

River, stream, or lake: Wasson Creek

Location: Township: 13N Range: R11W Section: 7

Latitude: 46.89039 Longitude: -112.91882 within project (decimal degrees)

County: Powell

B. Purpose of Project:

To renew a ten-year lease for 0.75 cfs with Mannix Brothers Ranch

C. Brief Project Description:

TU has had an instream flow lease with Mannix brothers Ranch since 2006. The Lease expires in September 2016. Mannix brothers Ranch has agreed to renew the lease for an additional ten years.

Historically, Nevada Creek, Nevada Spring Creek, and Wasson Creek have been habitat for westslope cutthroat trout. Agricultural practices over the past hundred years have seriously impaired much of the habitat in the Nevada Creek drainage. Starting in 2003, with the assistance a network of partners, TU embarked on a multi-faceted restoration effort that included restoration of the riparian habitat, channel restoration, screening of two irrigation ditches, and instream flow protection. After three years of single-season diversion reduction agreements, TU was successful in securing approval of ten-year lease that started in 2007. In that same year, restoration was completed on the other aspects of habitat impairment besides flow.

Upper Wasson Creek hosts an isolated population of pure-strain westslope cutthroat trout, but irrigation on lower Wasson Creek (approximately 2.9 miles) dewatered the creek to the extent that it has held few fish and the Wasson Creek population was largely isolated from the rest of the drainage. Both temperature (as high as 80 degrees F in lower Wasson) and the lack of flow represented substantial barriers to migration in and out of Wasson Creek. Both of these impairments were significant targets of the restoration effort.

Both the instream lease effort and the restoration project construction achieved completion in 2007. Wasson Creek and the streams it feeds--Nevada Spring Creek, Nevada Creek, and the Blackfoot river--have been intensively monitored both for fisheries response and for temperature response. To date, the restoration has been a substantial success. Follow-up monitoring by MDFWP has documented a substantial reduction in water temperatures at the mouth of Wasson Creek (See Attached Exhibit A); westslope cutthroat numbers in Nevada Spring Creek have gone from zero in 2003 to nearly 30 fish per 100 feet in 2010 (See Exhibit E). In addition, in 2012, MDFWP conducted a telemetry study of 14 migratory westslope cutthroat tagged below the mouth of Nevada Spring Creek—of the 14 tagged fish, 14 ascended Nevada Spring Creek and Wasson Creek to spawn in upper Wasson Creek (R. Pierce, personal communication).

While the total restoration effort on Wasson Creek/Nevada Spring Creek hasn't reach full maturity, the results over the first ten years of the project are, on balance, highly promising.

This lease renewal is to secure the stream flow part of the overall restoration for another ten years.

D. Length of stream or size of lake that will be treated: 2.9 miles

E. Project Budget:

**Grant Request (Dollars): \$ 20,000**

Contribution by Applicant (Dollars): \$ 4200 In-kind \$ 7437.60

(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 69,000 In-kind \$

(attach verification - See page 2 budget template)

**Total Project Cost: \$ 100,637.60**

F. Attach itemized (line item) budget – see template

- G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support and fish biologist support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire ([fwp.mt.gov/habitat/futurefisheries/supplement2.doc](http://fwp.mt.gov/habitat/futurefisheries/supplement2.doc)).
- H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

### III. PROJECT BENEFITS\*

- A. What species of fish will benefit from this project?:

Westslope cutthroat trout

- B. How will the project protect or enhance wild fish habitat?:

This project, in concert with the other restoration projects on Wasson Creek and Nevada Spring Creek, will maintain connectivity of the upper Wasson spawning and rearing habitat with the middle Blackfoot River.

- C. Will the project improve fish populations and/or fishing? To what extent?:

Yes, it already has. While it has and will continue to secure habitat for the existing resident fishery, it's most important impact will be in the populations below the mouth of Wasson Creek; namely Nevada Spring Creek, lower Nevada Creek, and the middle reaches of the Blackfoot river above the North Fork of the Blackfoot.

- D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

It will continue to improve the fishing opportunities on the middle reaches of the Blackfoot river by improving the recruitment of westslope cutthroat into that reach of the Blackfoot.

- E. The project agreement includes a 20-year maintenance commitment. Please discuss your ability to meet this commitment.

Not applicable to an acreage-retired water lease. State law—section 85-2-407 (3) MCA--confines the renewal of instream leases to ten years.

- F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

Historic dewatering, causing a loss of both resident habitat and creating a migration barrier for the migratory life history of westslope cutthroat trout.

- G. What public benefits will be realized from this project?:

This project will build on previous restoration efforts on Wasson Creek, and public benefits include: 1) recruitment of recreational fisheries to lower Nevada Creek and the middle Blackfoot, 2) maintaining suitable water temperatures in the Wasson/Nevada Spring Creek/ Nevada Creek/Middle Blackfoot complex; 3) improved water quantity on-site and downstream .

- H. Will the project interfere with water or property rights of adjacent landowners? (explain):
-

No. the original instream lease was approved after an analysis which concluded that no other water rights would be adversely affected by the lease. Since the inception of the original lease, there have been o complaints from other water users about the effects of the lease. Thus, TU anticipates that there will be no objections to the renewal of the lease.

- I. Will the project result in the development of commercial recreational use on the site?: (explain):

No.

- J. Is this project associated with the reclamation of past mining activity?:

No.

**Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.**

#### **IV. AUTHORIZING STATEMENT**

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:



Date:

5/31/2016

Sponsor (if applicable):

**\*Highlighted boxes will automatically expand.**

**Mail To: Montana Fish, Wildlife & Parks  
Habitat Protection Bureau  
PO Box 200701  
Helena, MT 59620-0701**

**E-mail To: Michelle McGree  
[mmcgree@mt.gov](mailto:mmcgree@mt.gov)  
(electronic submissions MUST be signed)**

**Incomplete or late applications will be rejected and returned to applicant.  
Applications may be rejected if this form is modified.**

**\*\*\*Applications may be submitted at anytime, but must be signed and received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.\*\*\***

**BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS**

Both tables must be completed or the application will be returned

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES**	IN-KIND CASH	TOTAL
<b>Personnel***</b>								
Survey				\$ -				\$ -
Design				\$ -				\$ -
Engineering				\$ -				\$ -
Permitting	30	hours	\$37.12	\$ 1,113.60		113.60		\$ 113.60
Oversight				\$ -				\$ -
Monitoiring	120	hours	\$50.00	\$ 6,000.00		6,000.00		\$ 6,000.00
			Sub-Total	\$ 7,113.60	\$ -	\$ 7,113.60	\$ -	\$ 7,113.60
<b>Travel</b>								
Mileage	600	miles	\$0.54	\$ 324.00		324.00		\$ 324.00
Per diem				\$ -				\$ -
			Sub-Total	\$ 324.00	\$ -	\$ 324.00	\$ -	\$ 324.00
<b>Construction Materials****</b>								
				\$ -				\$ -
<b>Water Lease</b>								
Payment	10	years	\$9,300.00	\$ 93,000.00	20,000.00		73,000.00	\$ 93,000.00
Application fee for renewal	1	filing	\$200.00	\$ 200.00			200.00	\$ 200.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 93,200.00	\$ 20,000.00	\$ -	\$ 73,200.00	\$ 93,200.00
<b>Equipment and Labor</b>								
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Mobilization</b>								
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -

**BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS**

<b>TOTALS</b>	\$	100,637.60	\$	20,000.00	\$	7,437.60	\$	73,200.00	\$	100,637.60
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\*Units = feet, hours, inches, etc. Please do not use lump sum.

\*\*Can include in-kind materials. Justification for in-kind labor (e.g. hourly rates used for calculations). Describe here or in text.

Reminder: Government salaries cannot be used as in-kind match

\*\*\*The Review Panel suggests that design and oversight costs associated with a proposed project not exceed 15% of the total project budget. If design and oversight costs are in excess of 15%, applications must include a minimum of two competitive bids for the cost of undertaking the project

\*\*\*\*The Review Panel recommends a maximum fencing cost of \$1.50 per foot

**MATCHING CONTRIBUTIONS** (do not include requested funds)

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL	Secured? (Y/N)
TU	\$ 7,437.60	\$ 4,200.00	\$ 11,637.60	Y
CBWTP	\$ -	\$ 59,000.00	\$ 59,000.00	N
FWS	\$ -	\$ 10,000.00	\$ 10,000.00	N
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
<b>TOTALS</b>	\$ 7,437.60	\$ 73,200.00	\$ 80,637.60	

## FUTURE FISHERIES IMPROVEMENT PROGRAM

### SUPPLEMENTAL INFORMATION SHEET FOR WATER LEASING OR WATER SALVAGE PROJECTS

The following additional information is requested to supplement the Future Fisheries Application for projects associated with water leasing or water salvage. Please complete this supplemental form and submit it as part of the Future Fisheries Grant Application.

- 1. Please complete the following table describing the water right(s) associated with the proposed project.** Note: Much of this information can be obtained either from your own water rights records or online at <http://www.dnrc.state.mt.us/wrd/home.htm> (choose “water rights” and then select an index to look up applicable claims)

RIGHT NUMBER; WATER SOURCE	POINT OF DIVERSION	QUANTIFIED FLOW (CFS)/ VOLUME (AF)/ IRRIGATED ACRES	PRIORITY DATE; PERIOD OF USE	RELATIVE PRIORITY ON WATER SOURCE	PURPOSE OF WATER RIGHT	OTHER CLAIMED ON THE STREAM SENIOR TO YOUR LISTED CLAIMS
76F-98235	NENWNE, s. 13, T13N R11W;  SWSWSW S. 7, T13N R11W	1.8 cfs; 189 acres, 140 af	5/1/1908; April 15- October 31	4 <sup>th</sup> priority of 5 claims	Irrigation	None
76F-98236	NENWNE, s. 13, T13N R11W;  SWSWSW S. 7, T13N R11W	1.5 cfs; 189 acres; 35.7 af	4/12/1881; April 15- October 31	2 <sup>nd</sup> priority of 5 claims	Irrigation	None
76F-98237	NENWNE, s. 13, T13N R11W;  SWSWSW S. 7, T13N R11W	1.25 cfs; 189 acres; 233.5 af	11/1/ 1865; April 15- October 31	1 <sup>st</sup> priority of 5 claims	Irrigation	None
76F-98238	NENWNE, s. 13, T13N R11W;  SWSWSW S. 7, T13N R11W	1.88 cfs; 189 acres; 233.5 af	November 27, 1882; April 15- October 31	3 <sup>rd</sup> priority of 5 claims	Irrigation	None

- 2. In the last 10 years, has your full water right amount regularly been available at your point of diversion throughout your period of use?**

Yes / **No** (Please circle one)



**Have you ever made “a call” on junior water users to obtain the water you needed (through a water commissioner or otherwise)?**

Yes / ☒ No (Please circle one)

3. **Please describe or include a summary of any measurements of the amount of water you have regularly diverted and how much typically flows by your diversion during different time periods.** Attached is a summary report labeled Exhibit C that summarizes measurement for the irrigation season of 2015; AND Exhibit D, which illustrates that in some years the available flow drops below the lease amount, but that the instream use gets it all once it drops to 0.75 cfs or lower.
4. **Has your local FWP fish biologist confirmed that your leasing/salvage project addresses a stream flow problem that significantly limits the fishery?** Yes.

☒ Yes / No (Please circle one)

5. **How much actual water (often different than just the remainder of your water rights) will be added to the stream through completion of your project?**  
~~Up to 0.75 cfs~~ Please fill in and circle one – ☒ cfs / gpm / miners inches

What length of stream will benefit from this additional flow? (Note: Under certain circumstances, senior water can be protected legally from diversion by downstream junior users.)

2.9 miles (please fill in or describe)

6. **Is there a water commissioner on your stream?** Yes / ☒ No (Please circle one)

**Are you willing to actively assist in monitoring and/or protecting the conserved water instream?** ☒ Yes / No (Please circle one and describe)

we will continue the same monitoring program we have pursued for the past ten years, which includes maintaining and calibrating a staff gage above and below the two diversions and working with the Mannix ranch to regularly check flows on the gages to shut down the diversions when flows below the diversions reach 0.75 cfs. Exhibits C and D are representative of and summarize that effort on a seasonal basis.

## EXHIBIT A

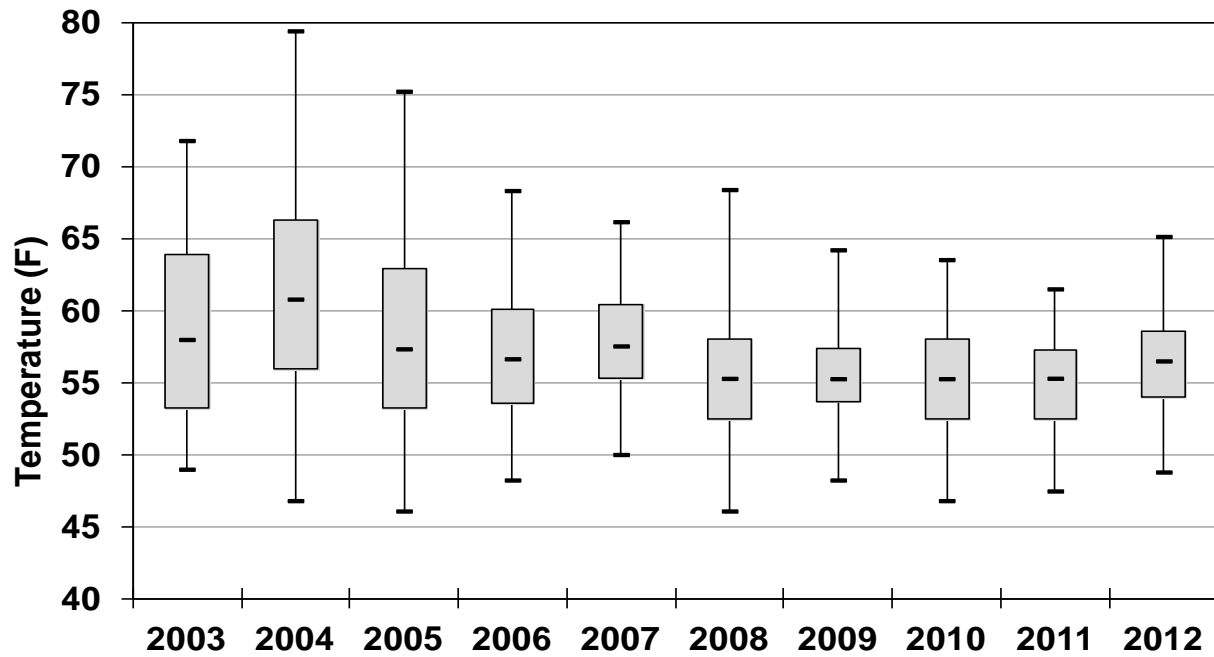
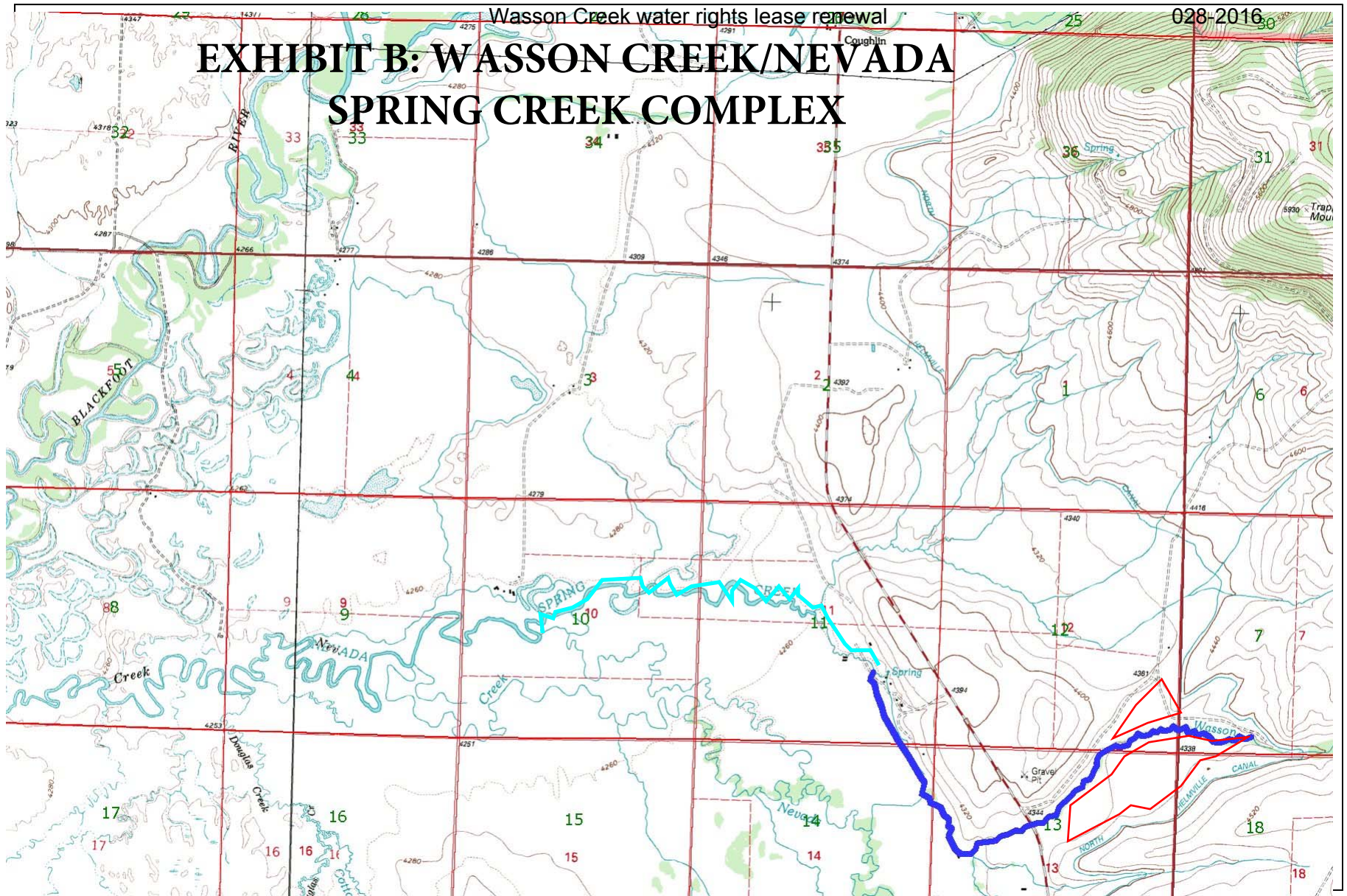


Figure 1. July water temperatures for Wasson Creek near the mouth, 2003-2012.

# EXHIBIT B: WASSON CREEK/NEVADA SPRING CREEK COMPLEX



0 1 Mi  
0 5000 Ft

- Wasson Creek protected reach
- Nevada Spring Creek
- Mannix Ranch Irrigated Ground



**EXHIBIT C**

**WASSON CREEK PROJECT**

**2015 SEASON**

**MANNIX RANCH**

**HELMVILLE, MONTANA**



Seasonal flow data were collected by Water Legend Hydrology and stage observations by Randy Mannix of the Mannix Ranch during the 2015 season, April thru August. Owing to the less than normal snowpack & rainfall during the season, this was an extremely low runoff season. Data for this season are presented in the following tables and graphs.

Wasson Creek above Mannix Diversion, near Helmville, MT							
Daily Mean Discharge, Cubic feet per second, Season April - Aug. 2015							
Day	March	April	May	June	July	August	Sept
1		3.48	2.90	<u>2.84</u>	1.95	1.50	
2		3.46	2.88	3.00	1.90	1.41	
3		3.45	2.95	3.10	1.85	1.32	
4		<u>3.44</u>	3.00	<u>2.84</u>	1.80	1.23	
5		3.32	3.10	2.85	1.75	1.14	
6		3.20	<u>3.13</u>	2.87	1.70	1.06	
7		3.08	3.50	2.90	1.65	0.97	
8		2.96	3.35	2.95	1.60	0.88	
9		<u>2.84</u>	3.19	<u>2.97</u>	1.55	0.79	
10		2.82	3.04	2.90	1.50	<u>0.70</u>	
11		2.80	2.88	2.84	1.45	0.73	
12		2.78	2.73	2.77	1.40	0.76	
13		2.77	<u>2.57</u>	2.70	1.35	0.79	
14		2.75	2.55	2.64	1.30	0.81	
15		2.73	2.53	<u>2.57</u>	1.25	0.84	
16		<u>2.71</u>	2.51	2.52	1.24	0.87	
17		2.70	2.50	2.47	1.22	<u>0.90</u>	
18		2.69	2.48	2.41	1.20	0.90	
19		2.68	2.46	2.36	1.23	0.88	
20		2.69	<u>2.44</u>	<u>2.31</u>	1.27	0.85	
21		2.69	2.53	2.25	1.30	0.83	
22		2.69	2.62	2.18	1.33	0.81	
23		2.70	2.71	2.12	1.37	0.78	
24		<u>2.71</u>	2.79	<u>2.05</u>	1.40	0.76	
25		2.60	2.88	2.02	1.55	0.74	
26	<u>2.21</u>	2.55	<u>2.97</u>	2.00	1.70	0.72	
27	2.60	<u>2.49</u>	3.00	2.00	1.85	0.69	
28	3.00	2.45	3.00	1.98	2.00	0.67	
29	<u>3.60</u>	<u>2.40</u>	<u>3.20</u>	1.98	1.85	0.65	
30	3.55	2.50	3.15	1.96	1.70	0.62	
31	3.50		3.00		1.55	0.60	
Total	18.46	85.13	88.52	75.34	47.76	27.20	
Mean		2.84	2.86	2.51	1.54	0.88	
Max		3.84	3.50	3.10	2.00	1.50	
Min		2.40	2.44	1.96	1.20	0.60	
Ac-Ft	36.6	168.9	175.6	149.4	94.7	54.0	<u>679.2</u>
Observation <u>XX.X</u>							
Discharge Measurement <u>XX.X</u>							
Diversion on or Shut Down <u>XX.X</u>							

Table 1. Daily Mean Discharge for Wasson Creek above Mannix Diversions 2015

Wasson Creek below Mannix Diversion, near Helmville, MT							
Daily Mean Discharge, Cubic feet per second, Season April - Aug. 2015							
Day	March	April	May	June	July	August	Sept
1		2.99	1.50	<u>1.73</u>	1.95	1.48	
2		2.98	1.48	1.60	1.88	1.39	
3		2.98	1.55	1.30	1.83	1.30	
4		<u>1.84</u>	1.90	<u>1.05</u>	1.78	1.21	
5		1.82	2.30	1.14	1.74	1.12	
6		1.80	<u>2.42</u>	1.23	1.68	1.04	
7		1.77	2.21	1.32	1.63	0.95	
8		1.75	2.00	1.41	1.58	0.86	
9		<u>1.73</u>	1.79	<u>1.50</u>	1.53	0.77	
10		1.72	1.58	1.45	1.48	<u>0.68</u>	
11		1.71	1.37	1.41	1.43	0.69	
12		1.70	<u>1.16</u>	1.36	1.38	0.69	
13		1.70	1.17	1.31	1.33	0.70	
14		1.69	1.18	1.27	1.28	0.70	
15		1.68	1.18	<u>1.22</u>	1.23	0.71	
16		<u>1.67</u>	1.19	1.16	1.22	0.71	
17		1.69	1.20	1.11	1.20	<u>0.72</u>	
18		1.71	1.21	1.05	1.18	0.70	
19		1.73	1.21	1.00	1.21	0.69	
20		1.76	<u>1.22</u>	<u>0.94</u>	1.25	0.68	
21		1.78	1.35	0.90	1.28	0.68	
22		1.80	1.49	0.86	1.31	0.67	
23		1.82	1.62	0.82	1.35	0.66	
24		<u>1.84</u>	1.76	<u>0.78</u>	1.38	0.65	
25		1.60	<u>1.89</u>	2.00	1.53	0.65	
26	<u>2.33</u>	1.35	1.87	1.98	1.68	0.64	
27	2.70	<u>1.11</u>	1.84	1.98	1.83	0.63	
28	3.00	1.15	1.82	1.96	1.95	0.62	
29	<u>3.13</u>	<u>1.20</u>	1.80	1.96	1.83	0.62	
30	3.05	1.50	1.77	1.95	1.68	0.61	
31	3.00		1.75		1.53	0.60	
Total	17.21	53.57	49.77	40.75	47.14	24.82	
Mean		1.79	1.61	1.36	1.52	0.80	
Max		2.99	2.42	2.00	1.95	1.48	
Min		1.11	1.16	0.78	1.18	0.60	
Ac-Ft	34.1	106.2	98.7	80.8	93.5	49.2	462.7
Observation XX.X							
Discharge Measurement <u>XX.X</u>							
Diversion on or Shut Down <b>XX.X</b>							

Table 2. Daily Mean Discharge for Wasson Creek below Mannix Diversions 2015

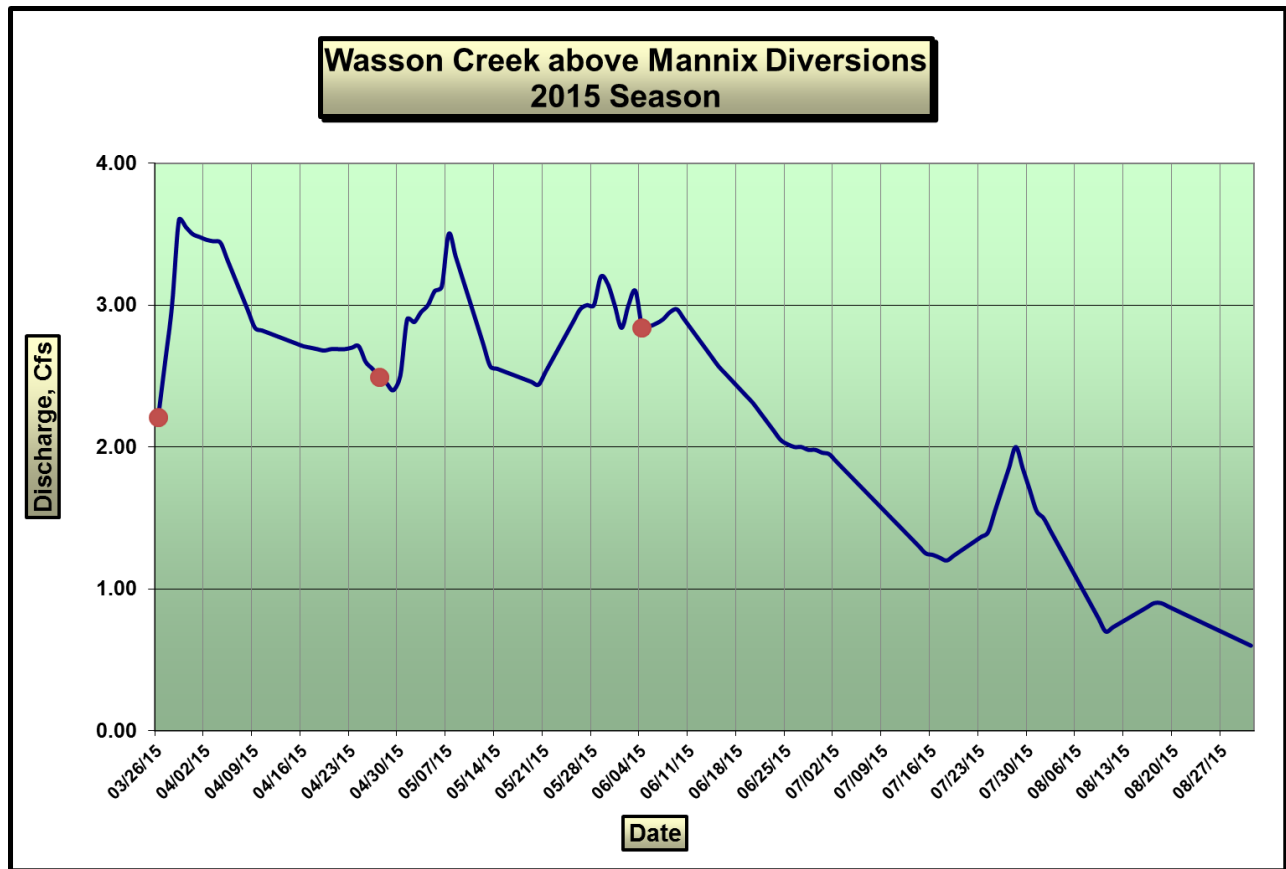


Figure1. Graph of Wasson Creek above Diversions 2015

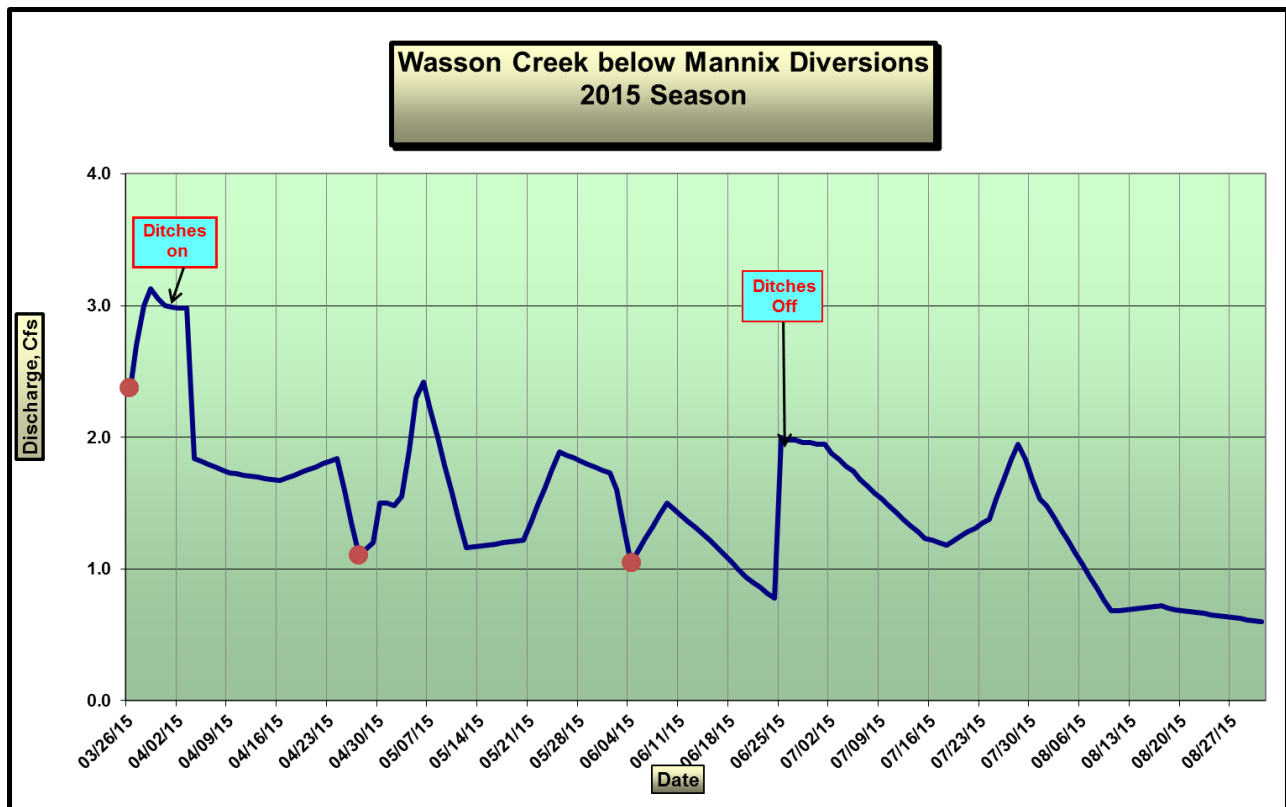
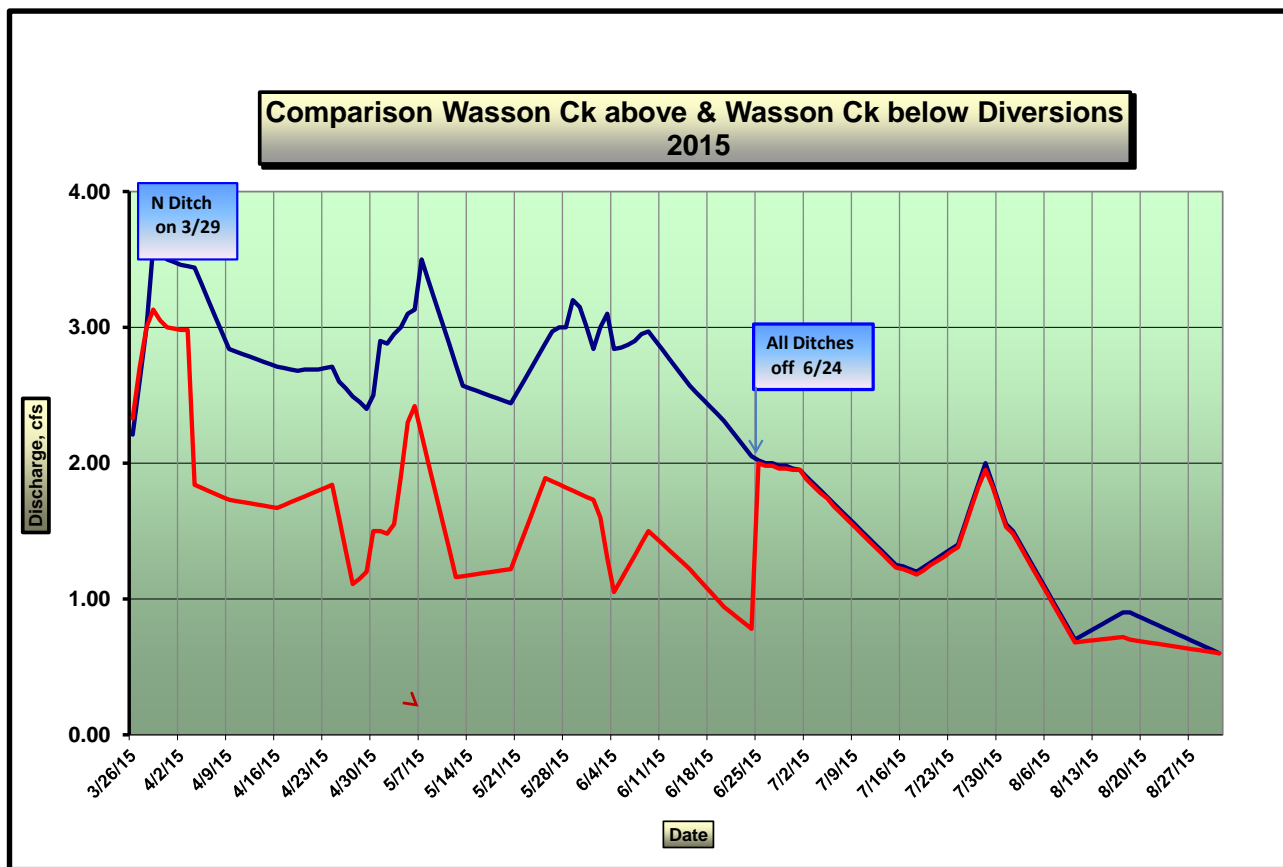


Figure2. Graph of Wasson Creek below Diversions 2015



**Figure3. Comparison of Wasson Ck Above and Below discharge data for 2015**

Table No. 3 shows the comparison of acre/foot totals by year from the period April-August and the dates that Randy closed down the irrigation system upstream of State Highway 141.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Ac/ft. Totals Above Diversions</b>	1038	1140	815	895	1019	492	1776	1332	556	937.8	679.2
<b>Ac/ft. Totals Below Diversions</b>	671	746	446	653	810	319	1352	1058	383	676	462.7
<b>Date Irrigation OFF</b>	Aug 14 <sup>th</sup>	July 24 <sup>th</sup>	July 14 <sup>th</sup>	July 11 <sup>th</sup>	July 9 <sup>th</sup>	July 22 <sup>nd</sup>	Aug 31 <sup>st</sup>	July 21 <sup>st</sup>	July 4 <sup>th</sup>	July 12 <sup>th</sup>	June 24 <sup>th</sup>

**Table 3. Comparison of Acre/Ft. Totals by Year**

Another comparison would be looking at the amount of estimated irrigation usage year by year from what is the estimated flow available at Wasson Creek above the diversions and estimates of flow past the Wasson Creek below site.



YEAR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimated irrigation Usage(Ac/ft. totals) April - August	367	394	369	242	209	173	424	274	173	261.8	216.5

Table 4. Comparison of estimated irrigation usage by season.

Based on the above comparison and observations by Randy that there was minimal April to July rainfall, and less than normal snowpack, the 2015 season had less irrigation water available when compared to the eleven year average of 310 acre/ft.

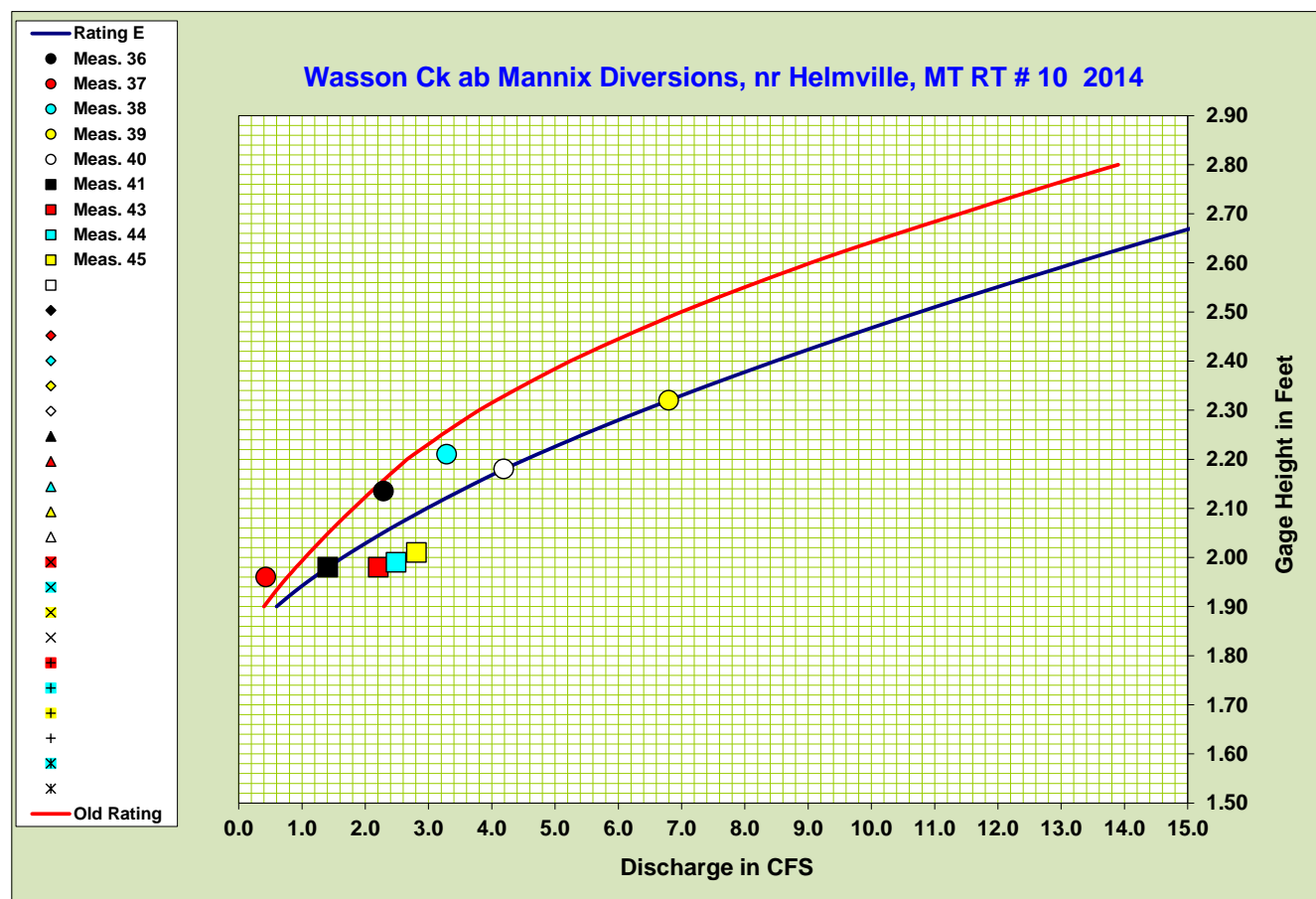
The following Table shows the readings and measurements for the 2015 season.

<b>Wasson Creek/Mannix Ranch Project 2015</b>						
	Wasson Creek upstr of Mannix Diversions	Wasson Creek downstream of Mannix Diversions	Comments	Wasson Creek upstr of Mannix Diversions	Wasson Creek downstream of Mannix Diversions	Comments
Date	03/26/15	03/26/15	Ron Drove in	06/15/15	06/15/15	Randy
Q-Ght,ft	2.21 cfs-1.98ft	2.38 cfs-0.43ft	BF=0.76 ft.	2.57 cfs-1.99ft	1.22 cfs-0.20ft	
Date	03/29/15	03/29/15	Randy	06/20/15	06/20/15	Randy
Q-Ght,ft	3.60 cfs-0.57ft	3.13 cfs-2.06ft		2.31 cfs-1.97ft	0.94 cfs-0.15ft	
Date	04/04/15	04/04/15	Randy	06/24/15	06/24/15	Randy
Q-Ght,ft	3.44 cfs-2.05ft	1.84 cfs-0.33ft	BF=0.51 ft.	2.05 cfs-1.95ft	0.78 cfs-0.12ft	Shut off for season
Date	04/09/15	04/09/15	Randy	08/10/15	08/10/15	Ron/Maxx
Q-Ght,ft	2.84 cfs-2.01ft	1.73 cfs-0.31ft	BF=0.41 ft.	0.70 cfs-1.83ft	0.68 cfs-0.10ft	
Date	04/16/15	04/16/15	Randy	08/17/15	08/17/15	Randy
Q-Ght,ft	2.71 cfs-2.00ft	1.67 cfs-0.27ft	BF=0.32 ft.	0.90 cfs-1.84ft	0.72 cfs-0.11ft	
Date	04/24/15	04/24/15	Randy			
Q-Ght,ft	2.71 cfs-2.00ft	1.84 cfs-0.29ft	BF=0.37 ft.			
Date	04/27/15	04/27/15	Ron			
Q-Ght,ft	2.49 cfs-1.99ft	1.11 cfs-0.17ft	BF=0.10 ft.			
Date	05/06/15	05/06/15	Randy			
Q-Ght,ft	3.13 cfs-2.03ft	2.42 cfs-0.407ft	BF=0.53 ft.			
Date	05/13/15	05/13/15	Randy			
Q-Ght,ft	2.57 cfs-1.99ft	1.16 cfs-0.17ft				
Date	05/20/15	05/20/15	Ron			
Q-Ght,ft	2.44 cfs-1.98ft	1.22 cfs-0.18ft				
Date	05/25/15	05/25/15	Randy			
Q-Ght,ft	2.97 cfs-2.02ft	1.89 cfs-0.32ft				
Date	06/01/15	06/01/15	Randy			
Q-Ght,ft	2.84 cfs-2.01ft	1.73 cfs-0.29ft				
Date	06/04/15	06/04/15	Ron			
Q-Ght,ft	2.84 cfs-2.01ft	1.05 cfs-0.18ft	BF=0.05 ft.			
Date	06/09/15	06/09/15	Randy			
Q-Ght,ft	2.97 cfs-2.02ft	1.50 cfs-0.25ft	Back to one ditch			

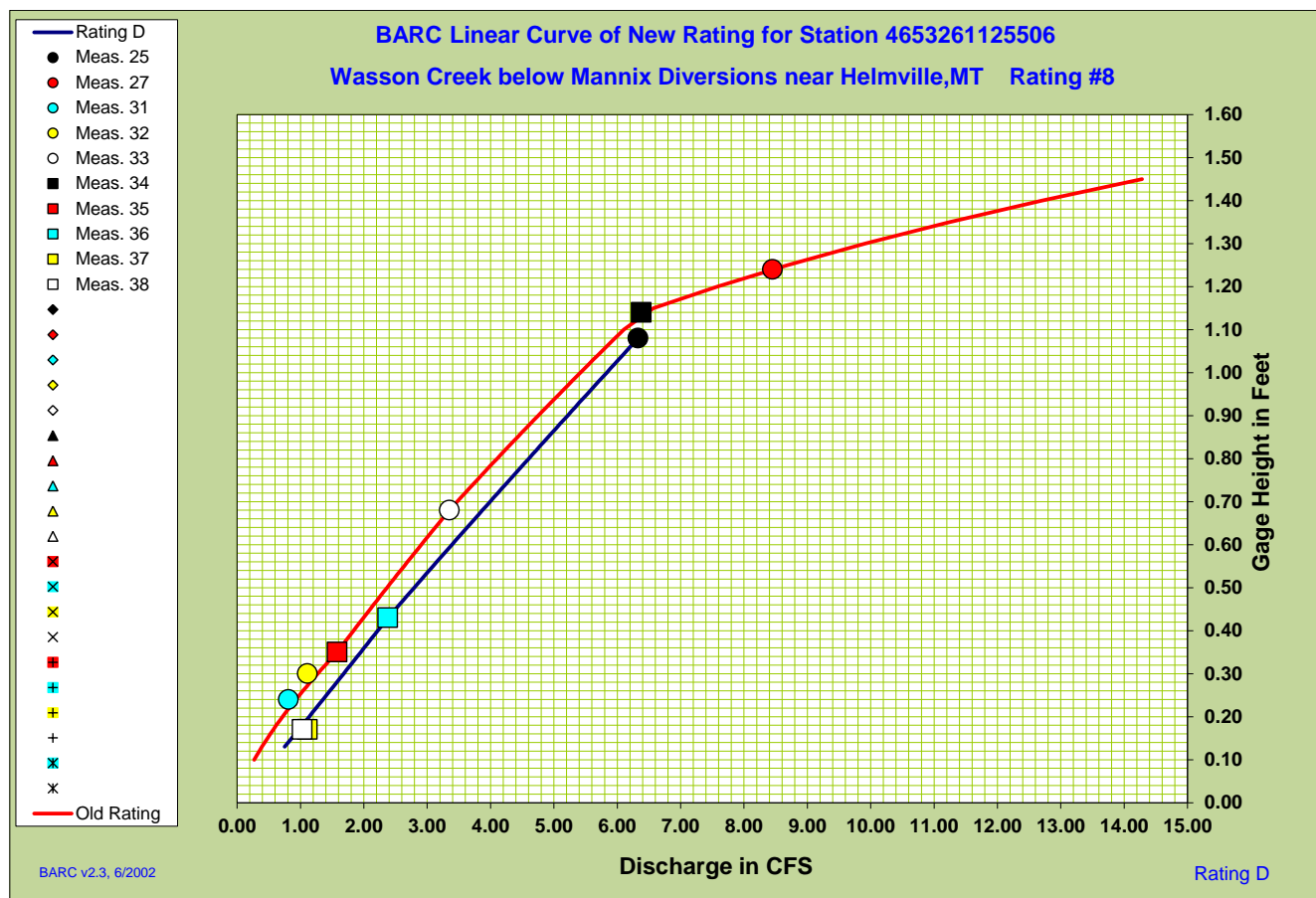
Table 5. Daily readings and measurements for both Wasson Creek flow measuring sites for 2015.

Because of low flows this season there wasn't enough definition to compute new ratings at both sites. The Stage-Discharge rating tables and curves are the same as last year for the Above site and a provisional one for the Below site. They are shown below.

<b>Rating Table #10 for Wasson Creek above Mannix Diversion MT TROUT UNLIMITED</b>											
<b>Rating #10-2014 ---- R. Shields 9/01/2014 PZF = 1.8 ft.</b>											<b>Diff in Q</b>
<b>Gage Height</b>	<b>Discharge in cubic feet per second</b>										<b>per 0.1 ft.</b>
(feet)	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	
1.8	0.1	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.5
1.9	0.6	0.71	0.81	0.92	1.02	1.13	1.23	1.34	1.44	1.55	1.05
2	1.65	1.78	1.91	2.05	2.18	2.31	2.44	2.57	2.71	2.84	1.32
2.1	2.97	3.13	3.28	3.44	3.60	3.76	3.91	4.07	4.23	4.38	1.57
2.2	4.54	4.73	4.91	5.10	5.28	5.47	5.66	5.84	6.03	6.21	1.86
2.3	6.4	6.61	6.82	7.02	7.23	7.44	7.65	7.86	8.06	8.27	2.08
2.4	8.48	8.71	8.94	9.16	9.39	9.62	9.85	10.1	10.3	10.5	2.28
2.5	10.8	11.0	11.3	11.5	11.7	12.0	12.2	12.5	12.7	13.0	2.46
2.6	13.2	13.5	13.7	14.0	14.3	14.5	14.8	15.1	15.3	15.6	2.64
2.7	15.9	16.1	16.4	16.7	17.0	17.3	17.5	17.8	18.1	18.4	2.8
2.8	18.7										



Rating Table for Wasson Creek below Mannix Diversion MT TROUT UNLIMITED											
Rating #8 provisional based on 3 meas. In 2015 and PZF Ron Shields 9/01/2015											Diff in Q
Gage Height	Discharge in cubic feet per second										per 0.1 ft.
(feet)	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	
0	0.001	0.06	0.12	0.17	0.23	0.29	0.35	0.41	0.46	0.52	0.58
0.1	0.58	0.64	0.69	0.75	0.80	0.86	0.92	0.97	1.03	1.08	0.56
0.2	1.14	1.19	1.25	1.30	1.36	1.41	1.46	1.52	1.57	1.63	0.54
0.3	1.68	1.73	1.79	1.84	1.90	1.95	2.00	2.06	2.11	2.17	0.54
0.4	2.22	2.28	2.33	2.39	2.45	2.51	2.56	2.62	2.68	2.73	0.57
0.5	2.79	2.85	2.91	2.97	3.03	3.09	3.15	3.21	3.27	3.33	0.60
0.6	3.39	3.45	3.51	3.57	3.63	3.69	3.75	3.81	3.87	3.93	0.60
0.7	3.99	4.05	4.11	4.17	4.23	4.30	4.36	4.42	4.48	4.54	0.61
0.8	4.6	4.66	4.72	4.79	4.85	4.91	4.97	5.03	5.10	5.16	0.62
0.9	5.22	5.28	5.34	5.40	5.46	5.53	5.59	5.65	5.71	5.77	0.61
1	5.83	5.89	5.95	6.02	6.08	6.14	6.20	6.26	6.33	6.39	0.62
1.1	6.45										



**EXHIBIT D**

# **WASSON CREEK PROJECT 2013 SEASON MANNIX RANCH HELMVILLE, MONTANA**



Seasonal flow data were collected by Water Legend Hydrology and stage observations by Randy Mannix of the Mannix Ranch during the 2013 season, April thru August. Owing to the less than normal snowpack & rainfall during the season, this was a very low runoff season. Data for this season are presented in the following tables and graphs.

Wasson Creek above Mannix Diversion, near Helmville, MT							
Daily Mean Discharge, Cubic feet per second, Season April - Aug. 2013							
Day	March	April	May	June	July	August	Sept
1		2.30	2.00	2.65	1.90	1.00	
2		2.29	1.95	2.90	1.85	1.20	
3		2.28	1.90	3.12	1.80	1.17	
4		2.30	1.92	3.03	XX.X	1.13	
5		2.29	1.94	2.94	1.80	1.10	
6		2.28	1.96	2.85	1.77	1.07	
7		2.27	1.99	2.77	1.74	1.03	
8		2.26	2.01	2.68	1.71	1.00	
9		2.25	2.03	2.59	1.68	0.97	
10		2.24	2.05	2.50	1.65	0.93	
11		2.23	2.07	2.41	1.62	0.90	
12		2.22	2.50	2.29	1.58	0.87	
13		2.23	2.80	2.80	1.55	0.83	
14		2.22	3.20	2.70	1.52	0.80	
15	-	2.21	2.90	2.50	1.49	0.76	
16		2.21	2.37	2.35	1.46	0.73	
17		2.20	2.41	2.29	1.43	0.70	
18		2.19	2.45	2.27	1.40	0.66	
19		2.19	2.49	2.25	1.37	0.63	
20		2.18	2.54	2.23	1.34	0.60	
21		2.17	2.58	2.21	1.31	0.56	
22		2.16	2.62	2.19	1.28	0.53	
23		2.16	2.66	2.17	1.25	0.50	
24		2.15	2.60	2.15	1.22	0.46	
25		2.16	2.55	2.12	1.18	0.43	
26		2.17	2.50	2.08	1.15	0.43	
27		2.18	2.60	2.05	1.12	0.43	
28		2.19	2.70	2.02	1.09	0.42	
29		2.20	2.77	1.98	1.06	0.42	
30		2.20	2.70	1.95	1.03	0.41	
31			2.68		1.00	0.40	
Total		66.58	74.44	73.04	43.35	23.07	
Mean		2.22	2.40	2.43	1.45	0.74	
Max		2.30	3.20	3.12	1.90	1.20	
Min		2.15	1.90	1.95	1.00	0.40	
Ac-Ft		132.1	147.6	144.9	86.0	45.7	556.3
Observation <u>XX.X</u>							
Discharge Measurement <u>XX.X</u>							
Diversion on or Shut Down <u>XX.X</u>							

Table 1. Daily Mean Discharge for Wasson Creek above Mannix Diversions 2013

Wasson Creek below Mannix Diversion, near Helmville, MT							
Daily Mean Discharge, Cubic feet per second, Season April - Aug. 2013							
Day	March	April	May	June	July	August	Sept
1		2.40	1.10	1.00	0.78	1.00	
2		2.39	1.00	1.15	0.77	0.98	
3		2.38	0.96	1.29	0.77	0.96	
4		2.40	1.02	1.28	0.75	0.93	
5		2.39	1.08	1.28	1.85	0.91	
6		2.38	1.13	1.27	1.80	0.89	
7		2.37	1.19	1.26	1.78	0.87	
8		2.36	1.25	1.25	1.74	0.85	
9		2.35	1.31	1.25	1.72	0.82	
10		1.55	1.36	1.24	1.68	0.80	
11		1.55	1.42	1.23	1.66	0.78	
12		1.55	1.50	1.11	1.62	0.76	
13		1.55	1.60	1.20	1.59	0.74	
14		1.55	1.70	1.15	1.56	0.71	
15	-	1.55	1.00	1.10	1.52	0.69	
16		1.55	0.81	1.10	1.50	0.67	
17		1.55	0.99	1.42	1.48	0.65	
18		1.55	1.18	1.37	1.44	0.63	
19		1.55	1.36	1.31	1.42	0.60	
20		1.55	1.55	1.26	1.38	0.58	
21		1.55	1.73	1.21	1.36	0.56	
22		1.55	1.92	1.16	1.32	0.54	
23		1.55	2.10	1.10	1.29	0.52	
24		1.55	1.94	1.05	1.26	0.49	
25		1.55	1.79	1.01	1.22	0.47	
26		1.56	1.63	0.97	1.18	0.45	
27		1.57	1.47	0.93	1.16	0.44	
28		1.58	1.32	0.88	1.14	0.44	
29		1.59	1.16	0.84	1.10	0.43	
30		1.60	1.10	0.80	1.05	0.43	
31			1.08		1.02	0.43	
Total		54.12	41.74	34.46	41.91	21.02	
Mean		1.80	1.35	1.15	1.35	0.68	
Max		2.40	2.10	1.42	1.85	1.00	
Min		1.55	0.81	0.80	0.75	0.43	
Ac-Ft		107.3	82.8	68.3	83.1	41.7	383.3
Observation XX.X							
Discharge Measurement <u>XX.X</u>							
Diversion on or Shut Down <b>XX.X</b>							

Table 2. Daily Mean Discharge for Wasson Creek below Mannix Diversions 2013

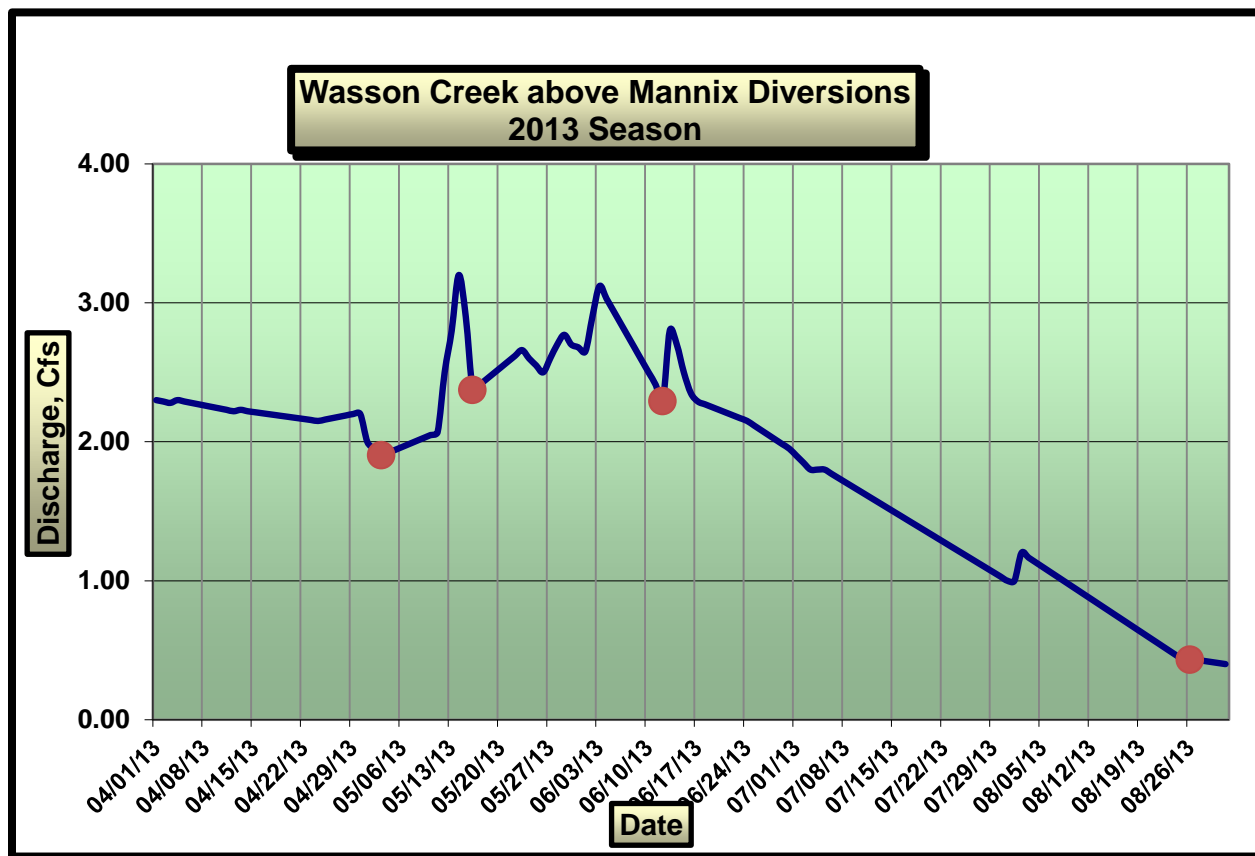


Figure1. Graph of Wasson Creek above Diversions 2013

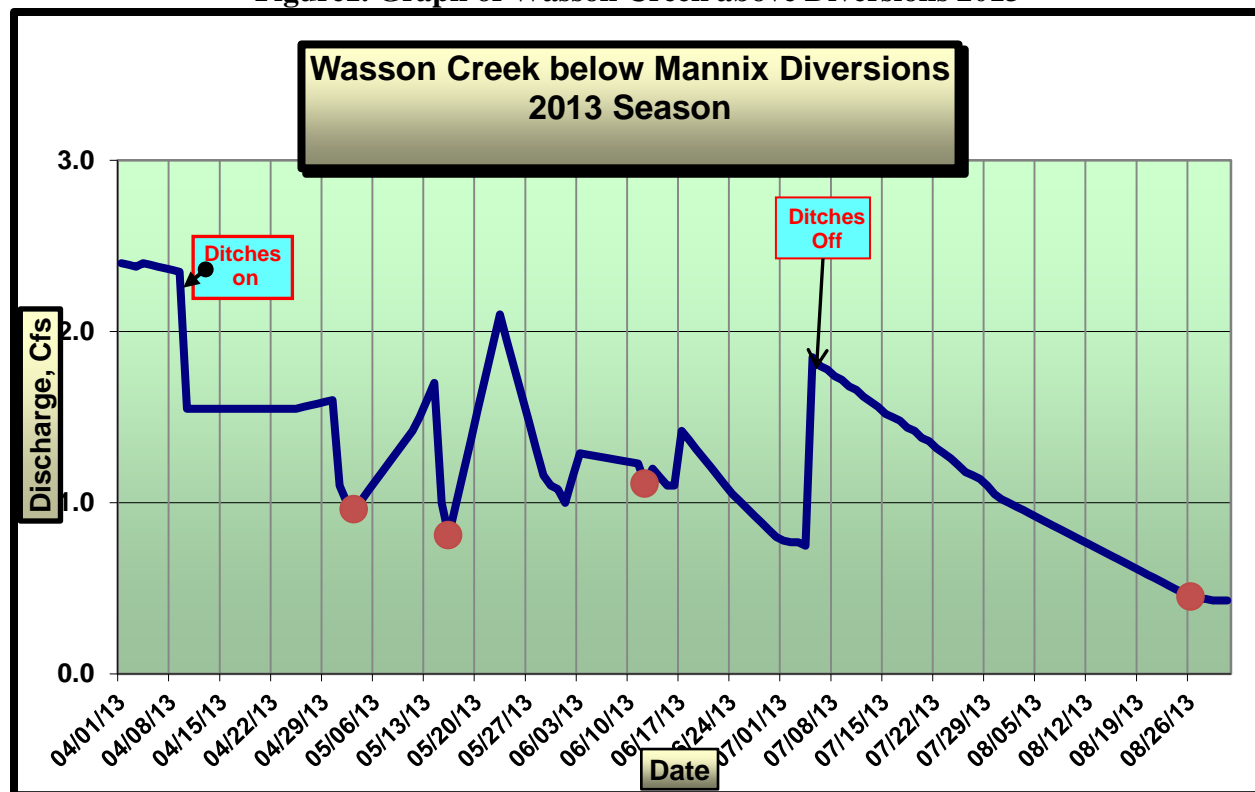
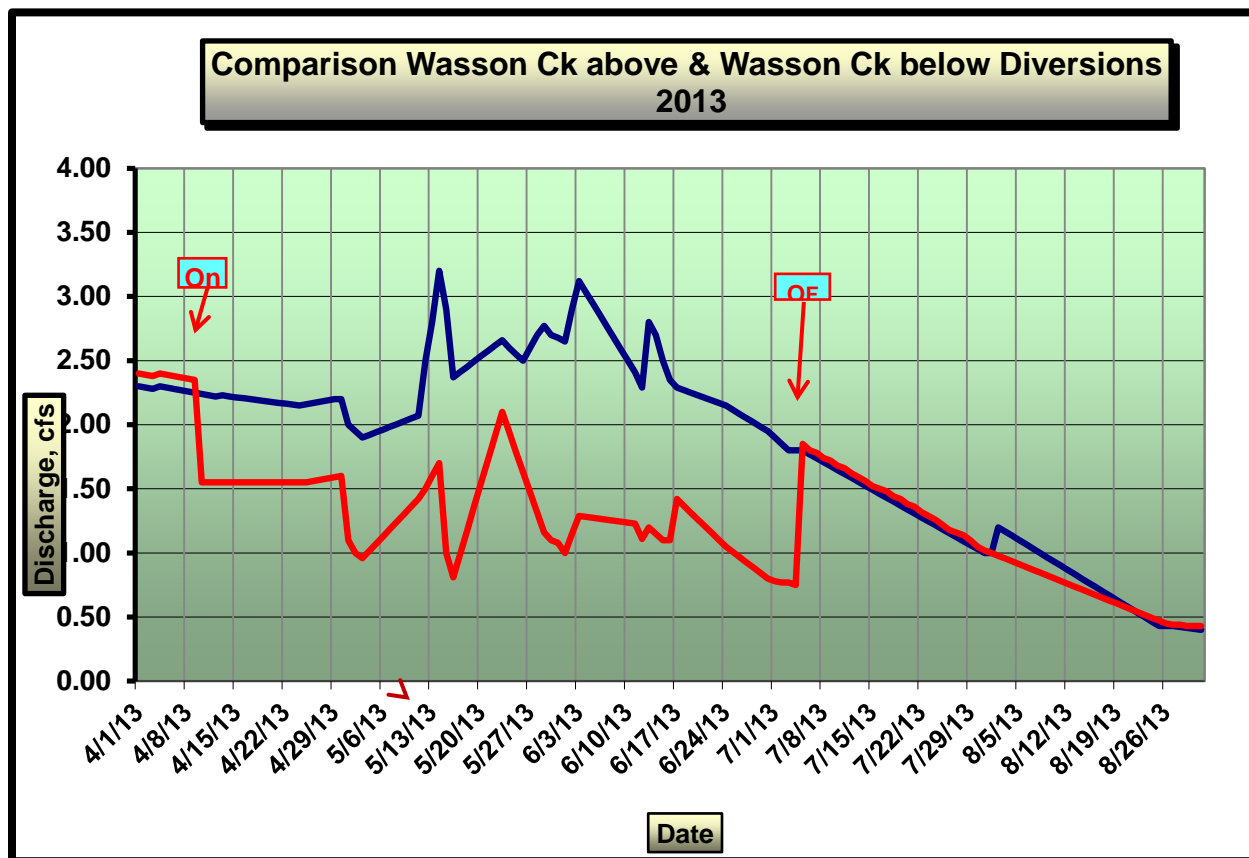


Figure2. Graph of Wasson Creek below Diversions 2013





**Figure3. Comparison of Wasson Ck Above and Below discharge data for 2013**

Table No. 3 shows the comparison of acre/foot totals by year from the period April-August and the dates that Randy closed down the irrigation system upstream of State Highway 141.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Ac/ft. Totals Above Diversions</b>	1038	1140	815	895	1019	492	1776	1332	556
<b>Ac/ft. Totals Below Diversions</b>	671	746	446	653	810	319	1352	1058	383
<b>Date Irrigation OFF</b>	Aug 14 <sup>th</sup>	July 24 <sup>th</sup>	July 14 <sup>th</sup>	July 11 <sup>th</sup>	July 9 <sup>th</sup>	July 22 <sup>nd</sup>	Aug 31 <sup>st</sup>	July 21 <sup>st</sup>	July 4 <sup>th</sup>

**Table3. Comparison of Acre/Ft. Totals by Year**

Another comparison would be looking at the amount of estimated irrigation usage year by year from what is the estimated flow available at Wasson Creek above the diversions and estimates of flow past the Wasson Creek below site.

YEAR	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Estimated irrigation Usage(Ac/ft. totals) April -August</b>	367	394	369	242	209	173	424	274	173

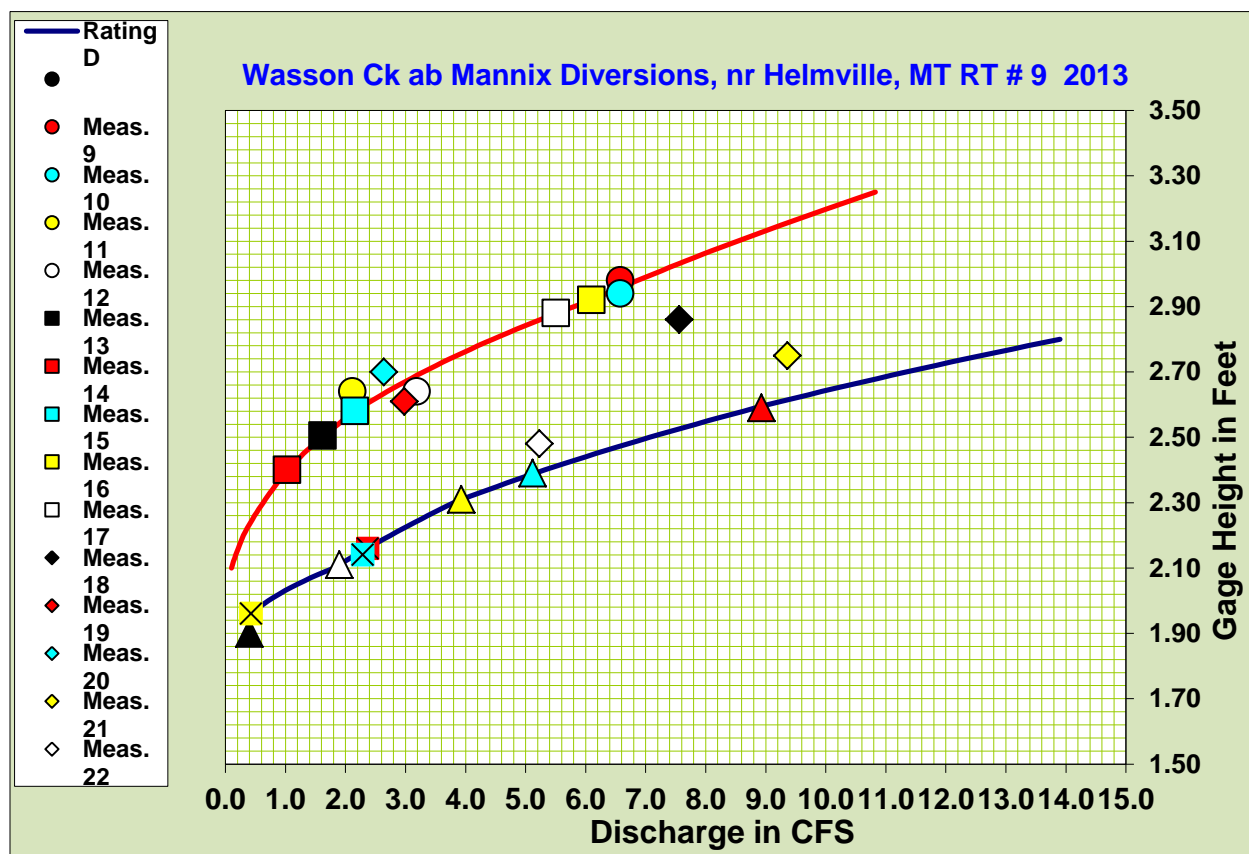


Based on the above comparison and observations by Randy that there was less than normal April to July rainfall, and below normal snowpack, the 2013 season had less irrigation water available. The following Table shows the readings and measurements for the 2013 season.

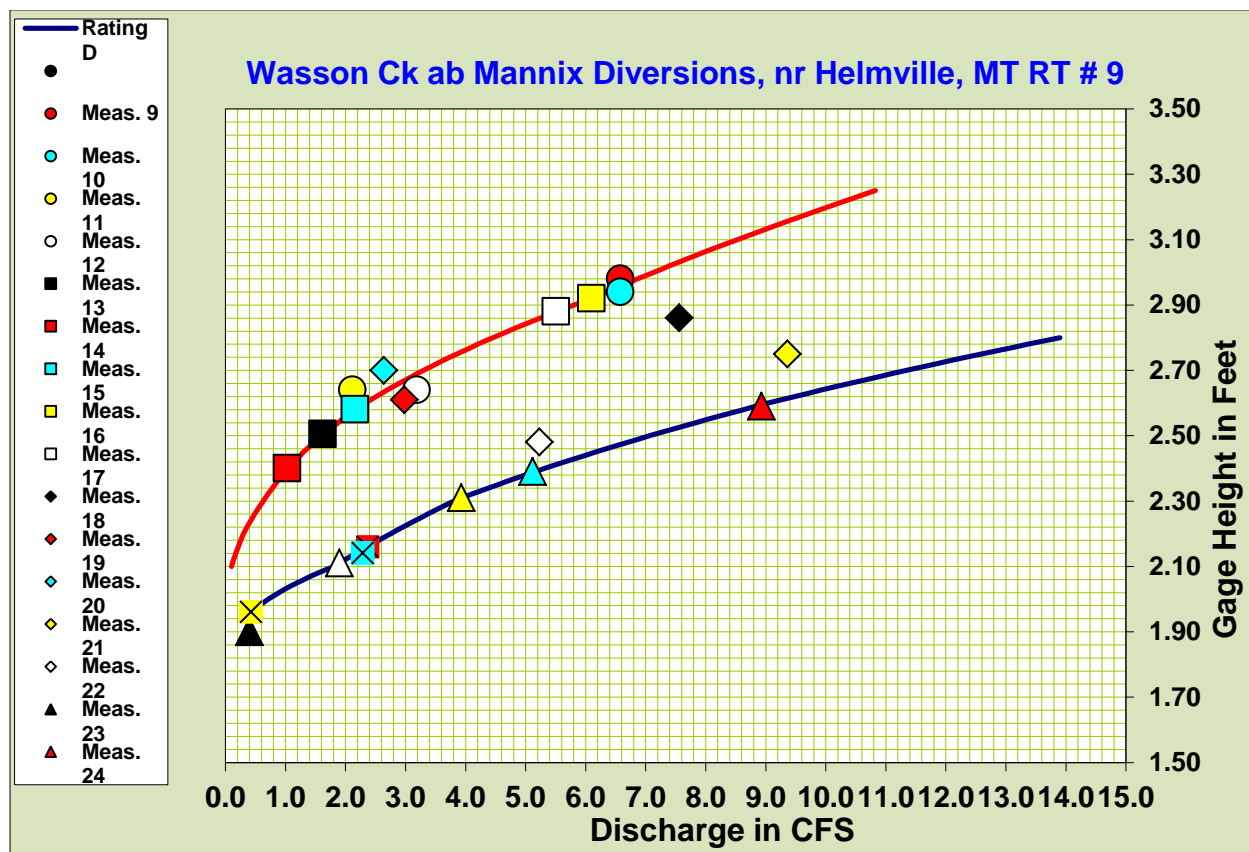
<b>Wasson Creek/Mannix Ranch Project 2013</b>			
	<b>Wasson Creek upstr of Mannix Diversions</b>	<b>Wasson Creek downstream of Mannix Diversions</b>	<b>Comments</b>
<b>Date</b>	02/26/13	02/26/13	Randy
<b>Q-Ght,ft</b>	<b>1.0 cfs</b> 1.09ft	<b>1.36 cfs</b> 0.33ft	
<b>Date</b>	04/10/13	04/10/13	Randy
<b>Q-Ght,ft</b>	<b>2.24 cfs</b> 2.15ft	<b>1.55 cfs</b> 0.36ft	N ditch on
<b>Date</b>	04/24/13	04/24/13	Randy
<b>Q-Ght,ft</b>	<b>2.15 cfs</b> 2.14ft	<b>1.55 cfs</b> 0.36ft	
<b>Date</b>	05/03/13	05/03/13	Randy/Ron
<b>Q-Ght,ft</b>	<b>1.90 cfs</b> 2.11ft	<b>0.96 cfs</b> 0.30ft	BF = 0.10ft
<b>Date</b>	05/11/13	05/11/13	Randy
<b>Q-Ght,ft</b>	<b>2.07 cfs</b> 2.13ft	<b>1.42 cfs</b> 0.34ft	
<b>Date</b>	05/16/13	05/16/13	Ron, S diversion open
<b>Q-Ght,ft</b>	<b>2.37 cfs</b> 2.16ft	<b>0.81 cfs</b> 0.24ft	BF= DRY
<b>Date</b>	05/23/13	05/23/13	Randy, Rain
<b>Q-Ght,ft</b>	<b>2.66 cfs</b> 2.20ft	<b>2.10 cfs</b> 0.44ft	
<b>Date</b>	05/29/13	05/29/13	Randy, both ditches on
<b>Q-Ght,ft</b>	<b>2.77 cfs</b> 2.21ft	<b>1.16 cfs</b> 0.30ft	
<b>Date</b>	06/03/13	06/03/13	Randy
<b>Q-Ght,ft</b>	<b>3.12 cfs</b> 2.24ft	<b>1.29 cfs</b> 0.32ft	
<b>Date</b>	06/11/13	06/11/13	Randy
<b>Q-Ght,ft</b>	<b>2.41 cfs</b> 2.15ft	<b>1.23 cfs</b> 0.31ft	
<b>Date</b>	06/12/13	06/12/13	Ron
<b>Q-Ght,ft</b>	<b>2.29 cfs</b> 2.13ft	<b>1.11 cfs</b> 0.30ft	BF = 0.03 ft
<b>Date</b>	06/17/13	06/17/13	Randy S ditch off
<b>Q-Ght,ft</b>	<b>2.29 cfs</b> 2.13ft	<b>1.42 cfs</b> 0.34ft	
<b>Date</b>	06/24/13	06/24/13	Randy
<b>Q-Ght,ft</b>	<b>2.15 cfs</b> 2.12ft	<b>1.05 cfs</b> 0.28ft	
<b>Date</b>	07/01/13	07/01/13	Randy, reduced N ditch
<b>Q-Ght,ft</b>	<b>1.90 cfs</b> 2.09ft	<b>0.78 cfs</b> 0.23ft	
<b>Date</b>	07/04/13	07/04/13	<b>Randy, all ditches OFF</b>
<b>Q-Ght,ft</b>			
<b>Date</b>	08/26/13	08/26/13	Ron
<b>Q-Ght,ft</b>	<b>0.43 cfs</b> 1.96ft	<b>0.45 cfs</b> 0.17ft	BF= 0.0 ft

The below normal flows this season required adjustment to the Stage-Discharge rating tables and curves. They are shown below.

Rating Table #9 for Wasson Creek above Mannix Diversion MT TROUT UNLIMITED											
Rating #9-2013 ---- R. Shields 6/13/2013 PZF = 1.8 ft.											Diff in Q
Gage Height	Discharge in cubic feet per second										per 0.1 ft.
(feet)	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	
1.9	0.4	0.47	0.53	0.60	0.66	0.73	0.79	0.86	0.92	0.99	0.65
2	1.05	1.13	1.20	1.28	1.35	1.43	1.51	1.58	1.66	1.73	0.76
2.1	1.81	1.90	1.98	2.07	2.15	2.24	2.32	2.41	2.49	2.58	0.85
2.2	2.66	2.77	2.89	3.00	3.12	3.23	3.34	3.46	3.57	3.69	1.14
2.3	3.8	3.94	4.09	4.23	4.38	4.52	4.66	4.81	4.95	5.10	1.44
2.4	5.24	5.42	5.59	5.77	5.94	6.12	6.29	6.47	6.64	6.82	1.75
2.5	6.99	7.20	7.40	7.61	7.81	8.02	8.22	8.43	8.63	8.84	2.05
2.6	9.04	9.27	9.50	9.73	10.0	10.2	10.4	10.7	10.9	11.1	2.31
2.7	11.4	11.6	11.9	12.1	12.4	12.6	12.9	13.1	13.4	13.6	2.5
2.8	13.9										



Rating Table for Wasson Creek below Mannix Diversion MT TROUT UNLIMITED											
Rating #6.2 based on 3 meas. In 2013 and PZF Ron Shields 6/21/2013											
Gage Height	Discharge in cubic feet per second										Diff in Q per 0.1 ft.
(feet)	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	
0		0.003	0.006	0.009	0.012	0.015	0.018	0.021	0.024	0.027	0.03
0.1	0.03	0.066	0.102	0.138	0.174	0.21	0.246	0.282	0.318	0.354	0.36
0.2	0.39	0.44	0.50	0.55	0.60	0.66	0.71	0.76	0.81	0.87	0.53
0.3	0.92	0.99	1.05	1.12	1.18	1.25	1.32	1.38	1.45	1.51	0.66
0.4	1.58	1.66	1.74	1.81	1.89	1.97	2.05	2.13	2.20	2.28	0.78
0.5	2.36	2.45	2.54	2.62	2.71	2.80	2.89	2.98	3.06	3.15	0.88
0.6	3.24	3.33	3.42	3.51	3.60	3.70	3.79	3.88	3.97	4.06	0.91
0.7	4.15	4.23	4.30	4.38	4.46	4.54	4.61	4.69	4.77	4.84	0.77
0.8	4.92	5.00	5.08	5.16	5.24	5.32	5.39	5.47	5.55	5.63	0.79
0.9	5.71	5.79	5.87	5.95	6.03	6.11	6.18	6.26	6.34	6.42	0.79
1	6.5	6.58	6.66	6.74	6.82	6.90	6.98	7.06	7.14	7.22	0.8
1.1	7.3	7.38	7.46	7.55	7.63	7.71	7.79	7.87	7.96	8.04	0.82
1.2	8.12	8.20	8.29	8.37	8.45	8.54	8.62	8.70	8.78	8.87	0.83
1.3	9.0	9.03	9.12	9.20	9.28	9.37	9.45	9.53	9.61	9.70	0.83
1.4	9.78	9.86	9.95	10.0	10.1	10.2	10.3	10.4	10.5	10.5	0.84
1.5	10.62										



# Restoration Progress Report, 2008-2010

The paired comparison shows a consistent reduction in water temperatures downstream of Nevada Spring Creek confluence except for 2008, which shows no change in summer (July) temperatures. Related temperature monitoring on Nevada Spring Creek identifies this warming was the result of stream/wetland problems that elevated water temperatures between 2005 and 2009 (Pierce et al 2008, Appendix G). These adverse temperature changes triggered corrective actions (i.e., additional channel/wetland reconstruction) on Nevada Spring Creek in fall 2009. This treatment was followed by a significant cooling compared to pre-treatment conditions. The result was the renewed cooling influence within both lower Nevada Spring Creek and receiving waters of Nevada Creek (Figure 43). All temperature data between 2008 and 2010 associated with Nevada Spring and Nevada Creeks are located in Appendix G.

## Nevada Spring Creek

### Restoration

*objectives:* Restore habitat suitable for cold-water trout; improve downstream water quality, and reduce thermal stress in Nevada Creek and the Blackfoot River.

### Project Summary

Nevada Spring Creek, a spring creek tributary of lower Nevada Creek, originates from an artesian spring and flows through agricultural lands to its junction with Nevada Creek at mile 6.2. The spring source produces between 6-9 cfs at a constant temperature of 44-46°F. Nevada Spring Creek is joined near its source by Wasson Creek, a small, basin-fed tributary that brings an

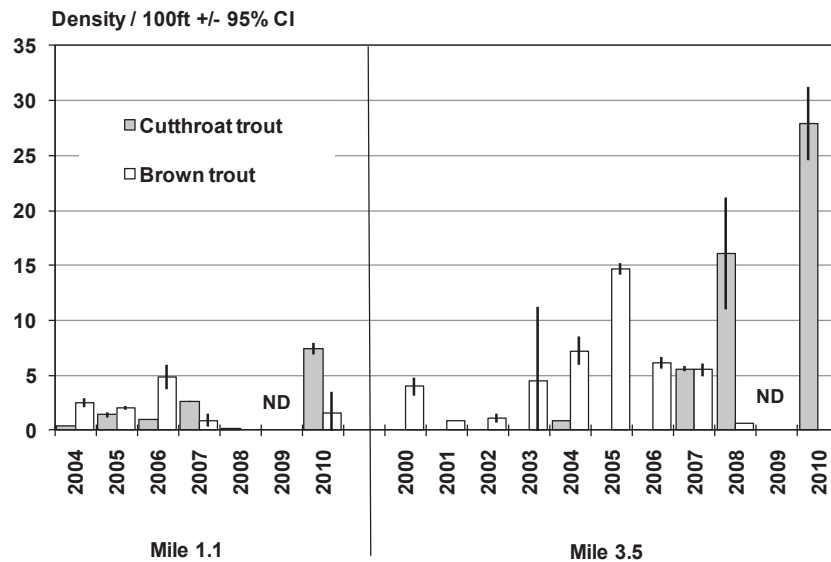


Figure 44. Fish population survey results for two sections of Nevada Spring Creek, 2001-2010.

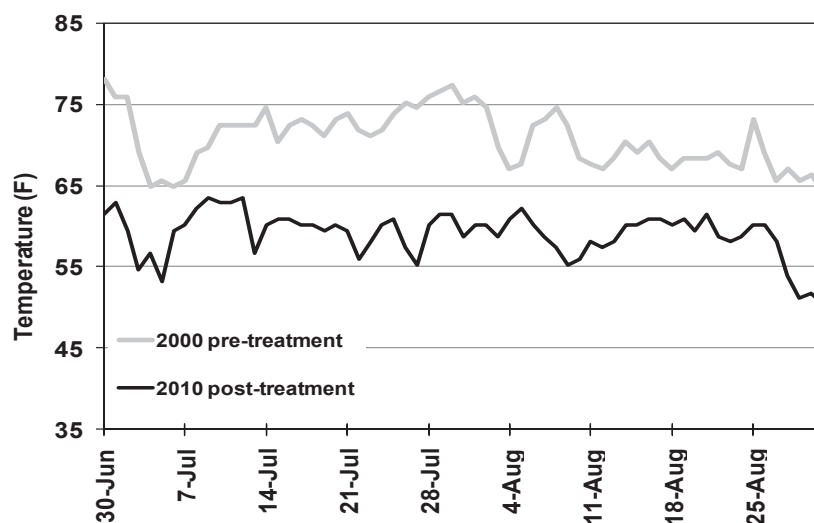


Figure 45. A pre-and post-treatment comparison of maximum daily summer water temperatures in Nevada Spring Creek at mile 0.1.

additional base flow of approximately two cfs during the non-irrigation season. Both Wasson Creek and Nevada Spring Creek have undergone extensive restoration activities in recent years (Pierce et al 2006, 2008).

Prior to restoration, summer water temperatures increased from a constant year-around 44-46°F at the spring source to >75°F in the lower spring creek due to the degraded and over-widened condition of the channel (Pierce et al. 2002). This warming and agricultural runoff from adjacent lands contributed to water quality degradation creating unsuitable habitat conditions for coldwater salmonids in the lower portion of Nevada Spring Creek (Pierce et al. 2002, 2006).

The restoration of Nevada Spring Creek involved full channel restoration (4.2 miles) between 2001 and 2009 along with riparian grazing changes, instream flow enhancement, wetland restoration activities and shrub plantings. This work also included a re-entry in the channel in 2009, which involved the reconstruction of ~5,000' of stream channel that proved unsustainable for the conservation of coldwater fisheries.

#### Fish populations and of monitoring activities

Prior to channel restoration, Nevada Spring Creek supported low densities of brown trout in upper reaches and non-game species (reidside shiners, northern pikeminnow, and largescale sucker) in the lower reaches (Pierce et al 2002). Westslope cutthroat trout were present in very low abundance; however, historically their numbers were abundant based on accounts by a long-term landowner (Frank Potts, personal communication)

In 2009-10, we continued post-project fish population monitoring at mile 3.5 (near the spring source) and at 1.1 (lower site). Near the spring source, densities of brown trout have continued to decline; however, westslope cutthroat trout have expressed a density increase (Figure 44). The brown trout decline may relate to a reduction in spawning habitat and loss of juvenile recruitment within Nevada Spring Creek based on an observed decline in age-0 fish (Appendix A and B). Whereas the sharp increase in westslope cutthroat trout densities appears to coincide with the upstream restoration of Wasson Creek, which has clearly increased downstream recruitment of native fish from that source area (*see* Wasson Creek project).

We also monitored water temperatures in 2008-2010 near the mouth of Nevada Spring Creek before and after the completion of additional channel reconstruction work in 2009. A comparison of maximum daily summer water temperatures recorded during the original (2000) pre-treatment dataset and post-treatment (2010) is shown on Figure 45. Summaries of temperature data for Nevada Spring Creek collected between 2008 and 2010 are located in Appendix G.

#### **North Fork of the Blackfoot River**

*Restoration objectives:* Eliminate the loss of bull trout and westslope cutthroat trout to irrigation canals; manage riparian areas to protect habitat for native fish; improve recruitment of native fish to the Blackfoot River.

#### Project Summary

The North Fork of the Blackfoot is the largest tributary to the Blackfoot River, with headwaters draining the Scapegoat Wilderness. Upon exiting the mountains near mile 12, the North Fork enters Kleinschmidt Flat, a large glacial outwash plain before entering the middle Blackfoot River at river mile 54. Five irrigation canals, located on

### **Renewal of Water Rights Lease Agreement for Instream Flow**

**This Renewal of Lease Agreement** is made by and between Trout Unlimited (Trout Unlimited”) and Mannix Bros. Ranch Inc. (Mannix Ranch) .

#### **RECITALS**

1. Trout Unlimited and Mannix Ranch entered into an instream flow lease (“Lease”) for 0.75 cfs on Wasson Creek on April 28, 2006 (Attached to this agreement as Exhibit A).
2. The Montana Department of Natural Resources and Conservation (DNRC) approved the lease on September 20, 2006.
3. The parties mutually wish to renew the lease for an additional term of ten years,
4. Maintaining instream flows in Wasson Creek with a water lease pursuant to this agreement will benefit the recruitment of westslope cutthroat trout in not only Wasson Creek but also in Nevada Spring Creek, lower Nevada Creek, and the middle Blackfoot River by providing resident and rearing habitat in and migratory passage into upper Wasson Creek.
5. The parties to this lease intend this agreement to accomplish its instream flow purposes as set forth in the agreement pursuant to the provisions of section 85-2-407 and 408, Montana Code Annotated.

**Therefore, the parties agree as follows:**

1. For payment of valuable consideration, the Mannix Ranch and Trout Unlimited agree to renew and extend the term of Lease for a period of ten years commencing on date that the DNRC approves the renewal of the lease, unless otherwise terminated by either party.
2. During the extended term, Trout Unlimited shall secure funding to pay the Mannix Ranch ninety-three thousand five hundred dollars (\$93,500) payable within 45 days of DNRC’s approval of the Lease renewal.
3. The Mannix Ranch acknowledges that the funding is dependent upon grant availability from federal, state and private funds. Trout Unlimited shall not be liable for failure to provide funds that have been committed to the project for reasons beyond its control. The parties agree that the loss of available funds that have been committed to the project shall not obligate Trout



Unlimited to the Mannix Ranch. If Trout Unlimited is unable to provide funding committed to this project, the Mannix Ranch is released from any obligation to honor the terms of the lease, and Trout Unlimited shall execute any and all documents necessary to change the purpose and place of use back to that in existence at the date of execution of this agreement.

4. All other terms of the Lease (Exhibit A) shall continue during the extended term as if fully set forth in this agreement to renew.
5. This agreement shall be binding upon and shall inure to the benefit of the parties, their successors, assigns and personal representatives.

**Mannix Ranch**

By

David W. Mannix

Date:

4/27/16~~PO Box 149~~

Ovando, MT 59854

83 Mannix Ranch Dr  
Helmerick MT 59843**Trout Unlimited**

By

Scott Yates

Date:

5/2/2016311 East Main Street, Ste 411  
Bozeman, MT 59715